Amendments to the specification:

Please replace paragraph [0006] with the following amended paragraph:

[0006] Traditional methods for controlling flare typically require a significant amount of setup time to control flare uniformly throughout a formed component. Some roll-former systems are not capable of controlling flare uniformly throughout a formed component. In general, one known method for controlling flare involves changing positions of roller assemblies of forming passes, moving a material through the forming passes, measuring the flare of the formed components, and re-adjusting the positions of the roller assemblies based on the measured flare. This ~~processes~~ process is repeated until the roller assemblies are set in a position that ~~reduced~~ reduces the flare to be within a specified flare tolerance. The roller assemblies then remain in a fixed position (i.e., static setting) throughout the operation of the roll-former system. Another known method for controlling flare involves adding a straightener fixture or flare fixture in line with the forming passes of a roll-former system. The straightener fixture or flare fixture includes one or more idle rollers that are set to a fixed position and apply pressure to flared surfaces of a formed component to reduce flare. Unfortunately, static or fixed flare control methods, such as those described above, allow flare to vary along the length of the formed components.

Please replace paragraph [0029] with the following amended paragraph:

[0029] FIG. 3 is an example of a sequence of forming passes 300 that may be used to make the example C-shaped component 200 of FIG. 2A. The example forming pass sequence 300 is illustrated using the material 102 (FIG. 1A) and a forming pass sequence line 302 that shows a plurality of forming passes p_0-p_5 associated with folds or bends that create a corresponding one of a plurality of component profiles 304a-g. The forming passes p_0-p_5 may be implemented by, for example, any combination of the forming passes 108a-g of FIGS. 1A and 1B. As described below, the folds or bends associated with the passes p_0-p_5 are applied along the plurality of folding lines 208a-b and 210a-b (FIG. 2A) to create the return structures 202a-b, <u>the</u> flange structures 204a-b, and the web structure 206 shown in FIG. 2A.

Please replace paragraph [0033] with the following amended paragraph:

[0033] Any material capable of withstanding the forces associated with the bending or folding of a material such as, for example, steel, may be used to implement the rollers 402a-b and 404. The rollers 402a-b and 404 may also be implemented using any shape suitable for performing a desired bending or folding operation. For example, as described in greater detail below in connection with FIGS. 7A and 7B, the angle of a forming surface <u>406</u> of the flange roller 404 may be configured to form a desired structure (e.g., the return structures 202a-b and/or the flange structures ~~204a-b having~~ <u>204a-b) having</u> any desired angle.

Please replace paragraph [0034] with the following amended paragraph:

[0034] The positions of the rollers 402a-b and 404 may be adjusted to accommodate, for example, different thickness materials. More specifically, the position of the upper side roller 402a may be adjusted by a position adjustment system 408, the position of the lower side roller 402b may be adjusted by a position adjustment system 410, and the position of the flange roller 404 may by adjusted by a position adjustment system 412. As shown[[,]] in FIG. 4A, the position adjustment system 408 is mechanically coupled to an upper side roller support frame 414a. As the position adjustment system 408 is adjusted, the upper side roller support frame 414a causes the upper side roller 402a to move along a curved path toward or away from the flange roller 404. In a similar manner, the position adjustment system 410 is mechanically coupled to a lower side roller support frame 414b via an extension element 416 (e.g., a push rod, ~~link arm~~ <u>a link arm</u>, etc.). As shown clearly in FIG. 5, adjustment of the position adjustment system 410 moves the extension element 416 to cause the lower side roller support frame 414b to swing the lower side roller 402b toward or away from the flange roller 404. The angle adjustment of the flange roller 404 with respect to the position adjustment system 410 is described below in connection with FIG. 5.

Please replace paragraph [0046] with the following amended paragraph:

[0046] Flare typically occurs at the ends of formed components and may be the result of overforming or underforming, which may be caused by roller positions and/or varying material properties. In particular, spring or yield characteristics of a material (i.e., the material 102 of FIG. 1A) may cause the flange structures 804a-b to flare out or to be underformed upon exiting a forming pass (e.g., one of the forming passes 108a-g of FIG. 1). Overform or flare-in, [[is]] typically occurs when a formed component (e.g., the example C-shaped component 800) travels into a forming pass and forming rolls (e.g., the flange roll 404 of FIG. 4) overform, for example, the flange structures 804a-b as the example C-shaped component 800 is aligned with the forming rolls. In general, flare may be measured in degrees by determining the angle between the one or more of the flange structures 804a-b and the web structure 806 at both ends of a formed component (i.e., the leading end 808 and trailing end 810).

Please replace paragraph [0048] with the following amended paragraph:

[0048] FIG. 8C is a plan view of another example C-shaped component 850 having an overformed leading end 852 (i.e., a flared-in end) and an underformed trailing end 854 (i.e., a ~~flared out~~ flared-out end). As shown in FIG. 8C, flare-in typically occurs along the length of a leading flare zone 856 and flare-out typically occurs at a trailing flare zone 858. As described above, flare-in may occur when a formed component (e.g., the example C-shaped component 800) travels into a forming pass and forming rolls (e.g., the flange roll 404 of FIG. 4) overform, for example, the flange structures 804a-b until the example C-shaped component 800 is aligned with the forming rolls. This typically results in a formed component that is substantially similar or identical to the example C-shaped component 850. Although, the example methods and apparatus described herein are described with respect to the example C-shaped component 800, it would be obvious to one of ordinary skill in the art that the methods and apparatus may also be applied to the example C-shaped component 850.

Please replace paragraph [0049] with the following amended paragraph:

[0049] FIG. 9 is an example time sequence view 900 depicting the operation of a flange roller (e.g., the flange roller 404 of FIG. 4B). In particular, the example time sequence 900 shows the time varying relationship between two rollers 902a and 902b and a flange roller 904 during operation of the example ~~roll forming~~ roll-former system 100 (FIG. 1). As shown in FIG. 9, the example time sequence 900 includes a time line 906 and depicts the rollers 902a-b and 904 at several times during their operation. More specifically, the rollers 902a-b and 904 are depicted in a sequence of configurations indicated by a configuration 908a at time t_0, a configuration 908b at time t_1, and a configuration 908c at time t_2. An angle 910 of the flange roller 904 is adjusted to control the flare of a profiled component (i.e., the example C-shaped component 800 of FIGS. 8A and 8B) as a material (e.g., the material 102 of FIG. 1) travels through the rollers 902a-b and 904. The flange roller 904 may be repositioned via, for example, the position adjustment system 412, the extension element 502, and the roller support frame 506 as described above in connection with FIG. 5.

Please replace paragraph [0050] with the following amended paragraph:

[0050] The rollers 902a-b and 904 may be used to implement a final forming pass of the example ~~roll-forming~~ roll-former system 100 (FIG. 1) such as, for example, the forming pass 108g. The final forming pass 108g may be configured to receive the example C-shaped component 800 of FIGS. 8A and 8B while the rollers 902a-b and 904 are configured as indicated by the configuration at time t_0 908a. Alternatively, the final forming pass 108g may be configured to receive the example C-shaped component 850 of FIG. 8C. In this case, the roller 902a applies an outward force to one of the overformed flanges of the leading flare zone 856, thus causing the overformed flange to move toward the surface of the flange roller 904 that is positioned at a negative angle as shown by the configuration at time t_0 908a. In this manner, an overformed flange may be pushed out toward a nominal flange position.

Please replace paragraph [0055] with the following amended paragraph:

[0055] The example flare control system 1000 may be configured to tilt, pivot, or otherwise position the drive side flange roller 1004 and the operator side flange roller 1002, as described above in connection with FIG. 9, while the example C-shaped component 800 moves past the rollers 1002 and 1004. Varying an angle (e.g., the angle 910 of FIG. 9) associated with a position of the flange rollers 1002 and 1004 enables the example flare control system 1000 to control the amount of flare at both ends of the example C-shaped component 800. For example, as shown in FIG. 8A, the leading flare angle 816 is smaller than the trailing flare angle 818. If the flange rollers 1002 and 1004 were held in one position as the example C-shaped component 800 passed through, one of the flanges <u>(e.g., one of the flanges 804a and 804b of FIG. 8A)</u> may be underformed or overformed. By tilting or pivoting the flange rollers 1002 and 1004 while the material (e.g., the example C-shaped component 800) is moving through the example flare control system 1000, each of the flanges can be individually conditioned via a different pivot or angle setting and variably conditioned along the length of the corresponding flare zones 812 and 814.

Please replace paragraph [0066] with the following amended paragraph:

[0066] The feedback sensors 1024a-b may be configured to communicate measured flare values to the example processor system 1018. The example processor system 1018 may then use the measured flare values to adjust the position of the flange rollers 1002 and 1004. For example, if the measured flare values are greater than a flare tolerance or specification, the positions of the flange rollers 1002 and 1004 may be adjusted to increase the angle 910 shown in the configuration at time [[t2]] $\underline{t_2}$ 908c so that the flare of the next formed component may be reduced to meet the desired flare tolerance or specification.

Please replace paragraph [0076] with the following amended paragraph:

[0076] For example, the operator side flange roller 1002 may be adjusted gradually over time from a first position at block 1104 to a second position at block 1108 as the example C-shaped component 800 travels through the example flare control system 1000. The movement of the operator side flange roller 1002 from the first position to the second position may be configured by setting, for example, the flange roller velocity, the flange roller ramp rate, and the flange roller acceleration based on the gradient of the leading flare zone 812 and/or the trailing flare zone 814, the length of one or both of the flare zones ~~8112~~ <u>812</u> and 814, and the velocity of the example C-shaped component 800. As the example C-shaped component 800 travels through the example flare control system 1000 (FIG. 10), the position of the operator side flange roller 1002 may move gradually from a first position to a second position to follow a gradient of flare.

Please replace paragraph [0078] with the following amended paragraph:

[0078] The position values (e.g., angle settings) for the flange rollers 1002 and 1004 described in connection with the example method of FIG. 11 may be determined by moving one or more formed ~~component~~ components such as, for example, the example C-shaped component 800 through the example flare control system 1000 and adjusting the positions of the flange rollers 1002 and 1004 until the measured flare is within a flare tolerance specification value. More specifically, the positions may be determined by setting the flange rollers 1002 and 1004 to a position, moving the example C-shaped component 800 or a portion thereof (e.g., one of the flare zones 812 and 814) through the example flare control system 1000, measuring the flare of the example C-shaped component 800, and re-positioning the flange rollers 1002 and 1004 based on the measured flare. This process may be repeated until the measured flare is within a flare tolerance specification value. Additionally, this process may be performed for any flared portion of the example C-shaped component 800.

Please replace paragraph [0079] with the following amended paragraph:

[0079] The position values (e.g., angle settings) for the flange rollers 1002 and 1004 may be stored [[on]] in a memory such as, for example, the mass storage memory 1525. More specifically, the position values may be stored in, for example, a database and retrieved multiple times during operation of the example method. Additionally, a plurality of profiles may be stored for a plurality of material types, thicknesses, etc. that may be used in, for example, the example roll-former system 100 of FIG. 1. For example, a plurality of sets of position values may be predetermined for any number of different materials having different material characteristics. Each of the position value sets may then be stored as a profile in a database entry and referenced using material identification information. During execution of the example method of FIG. 11, an operator may inform the example processor system 1018 of the material that is being used and the example processor system 1018 may retrieve the profile or position value set associated with the material.

Please replace paragraph [0083] with the following amended paragraph:

[0083] The feedback process then determines if the beginning of the trailing flare zone 814 has reached the operator side feedback sensor 1024a (block 1206). If the beginning of the trailing flare zone 814 has not reached the operator side feedback sensor 1024a, the feedback process may remain at block 1206 until the beginning of the trailing flare zone 814 reaches the operator side feedback sensor 1024a. However, if the beginning of the trailing flare zone 814 has reached the operator side feedback sensor 1024a, the example processor system 1018 may configure the operator side feedback sensor 1024a to obtain a flare measurement value associated with the trailing flare angle 818 ~~(FIG. 8)of~~ (FIG. 8) of the trailing flare zone 814 (block 1208).

Please replace paragraph [0098] with the following amended paragraph:

[0098] The flange roller adjuster 1408 may be configured to obtain position values from the storage interface 1406 and adjust the position of, for example, the flange rollers 1002 and 1004 (FIG. 10) based on the position values. The flange roller adjuster 1408 may be communicatively coupled to the position adjustment system 1008 (FIG. 10) and the linear encoder 1006 (FIG. 10). The flange roller adjuster 1408 may then drive the position adjustment system 1008 to change [[to]] the position of the operator side flange roller 1002 and obtain displacement measurement values from the linear encoder 1006 that indicate the distance or angle by which the operator side flange roller 1002 has been adjusted or displaced. The flange roller adjuster 1408 may then communicate the displacement measurement values and the position values to the comparator 1412. The flange roller adjuster 1408 may then continue to drive or stop the position adjustment system 1008 based on a comparison of the displacement measurement values and the position values.